



INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION

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DISTRIBUTION

To (Name) Mr. J. Riddle
Division Mining and Metals Division
Location King City, California

Date January 31, 1966

Originating Dept. Medical Department

Answering letter date

Copy to Mr. L. B. Emlet/
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Subject



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Dear Mr. Riddle:

The following are the findings of dust determinations made at the King City plant January 25-26, 1966.

<u>Location</u>	<u>MPPCF*</u> <u>1/25/66</u>	<u>1/26/66</u>	<u>Remarks</u>
Beside bagging machine operator. Both bagging spouts in use.	27.0 24.1		Visibly dusty with back surges through collectors.
		16.0 21.2	Less visible dust loss on first sample but back surges occurring during second sample (bagging high density wetted material).
Same location but with ducts cleared.	12.7 20.5		Less visible dust loss during first sample but surges occurring during second sample.
Discharge end of bag conveyor.	9.5 11.0	12.5 14.7	Conditions visibly about the same on both days.
Platform at controls for refiner circuit.	7.0		Generally clear.

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(cont'd) <u>Location</u>	MPPCF* <u>1/25/66</u>	<u>1/26/66</u>	<u>Remarks</u>
ComBin feeder and screen area.	7.3		Generally clear.
Shaker table area.		13.0 10.7	Some visible dust.
Drier stack		18.2	Sample taken inside stack by use of a probe.
North Boundary fence about 60 yards from ore pile.		22.7 24.1	Wind from south with gusts to about 20 M.P.H. Visible loss of material from ore pile and dust deposit on grass beyond boundary fence.

*Millions of particles per cubic foot of air. For the
King City plant the recommended limit is 5.0 MPPCF.

Samples were collected by impingement in distilled
water and counted by the light-field microscope technique
recommended by the United States Public Health Service.
Magnification was 100 diameters.

You will note that at all points investigated the dust
concentrations were higher than 5.0 MPPCF. Inside the
building it was felt that this was caused by a combination
of construction activity which affected dust control and
also by plug-ups in the dust system resulting from the ad-
dition of water to the product prior to bagging. Concen-
trations at the north boundary fence resulted from loss of
material from the stock pile in face of a fairly constant
wind from the south. The concentration of dust in the drier
stack was not excessive and would cause no problem of air
pollution to points outside the plant. There is a pos-
sibility however that the effluent can enter the main build-
ing if north doors are not closed. This has been demonstrated
in the past.

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In view of the findings it was recommended that added effort be made to increase the dust control efficiency at the bagging machine and to eliminate plug-ups in the control system. Since it was felt that the bagging operation was the primary source of dust it was believed that improved control at this point will markedly reduce the dust problem throughout the building.

The possibility of loss of dust from the ore pile has been recognized and the practice of wetting the pile with water has been followed for some time. The findings of this investigation emphasize the need for careful continuance of the practice both to prevent contamination of the work environment with a wind from the north and contamination of adjacent property with a wind from the south.

It is also recommended that routine dust evaluations be made in the plant at intervals of no more than two months by plant personnel. Mr. Kamens felt that within the routine of laboratory activity this could be accomplished without undue strain. This office will continue to review the work at intervals and provide assistance as needed.

During this visit questions concerning supply water and the handling of liquid wastes were discussed. It was recommended that the routine submission of tap water samples to the local health district for sanitary analysis be re-instituted. A continuing record of this type may prove to be of considerable value in the future.

Yours very truly,

Paul W. McDaniel

Paul W. McDaniel
Industrial Hygiene Engineer

PWM/en